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### REMARKS/ARGUMENTS

Applicant appreciates the thorough examination of the present application, as evidenced by the Official Action. The Official Action objected to Claims 5 and 19 as incorrectly referencing at least one format as being of at least one motion device as opposed to being of the at least one operation information of the at least one motion device. The Official Action also rejected all of the pending claims, namely Claims 1-21, under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,757,649 to Kato. In addition, the Official Action rejected Claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,438,444 to Mizuno, in view of U.S. Patent No. 5,757,648 to Nakamura.

In response to the Official Action, Applicant has amended Claims 5 and 19 to identify the format as being of the operation information, as opposed to being of the motion device, thereby overcoming the objection to these claims. However, Applicant has not amended any of the claims in response to either the § 102(e) rejection or the § 103(a) rejection. As explained below, Applicant respectfully submits that Claims 1-21 are patentably distinct from the Kato, Mizuno and Nakamura patents, taken individually or in combination. Thus, Applicant respectfully traverses the rejections of the claims under either § 102(e) or § 103(a).

#### A. The Claimed Invention is Patentable over the Kato Patent

The Kato patent discloses a CAD/CAM apparatus and a method of automatically operating the CAD/CAM apparatus for a plurality of machines. As disclosed, the CAD/CAM apparatus includes a storing means for dividing product graphic data into element data (e.g., a line, an arc, a point, and a circle) and storing the element data. The CAD/CAM apparatus also includes a plurality of two-dimensional machining definition tables for extracting the element data and defining the extracted element data as a two-dimensional machining shape, and a three-dimensional machining definition table for combining the plurality of two-dimensional machining definition tables and defining selected two-dimensional machining definition tables as a three-dimensional machining shape. In addition, the CAD/CAM apparatus includes a plurality of machining condition storing means for storing machining conditions corresponding to a plurality of machines, an attribute defining means for adding data representing a machining

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feature to the element data, and a means for generating NC data intrinsic to the machines or NC source data corresponding to a combination of the plurality of two-dimensional machining definition tables or the three-dimensional machining definition table and the machining condition data of the plurality of machining condition storing means.

As recited by independent Claims 1, 8 and 15, a method, system and computer program product, respectively, are provided for controlling operation of at least one motion device. As recited, the system of independent Claim 8 includes a setup component and at least one motion command component. The setup component is capable of extracting process information from electronic simulation information, where the electronic simulation information includes information relating to the operation of the motion device(s). The setup component is also capable of formatting the process information into neutral process information, where the neutral process information is in a format independent of a format of the electronic simulation information. The motion command component(s) are capable of receiving the neutral process information from the setup component. In this regard, each motion command component is associated with at least one motion device. Each motion command component is capable of interpreting the received neutral process information into operation information for at least one controllable element of each respective motion device, where the operation information depends on a type of the motion device(s). Each motion command component is also capable of distributing the operation information to the controllable element(s) of each respective motion device to thereby control the operation of the respective motion devices.

In contrast to the method, system and computer program product of independent Claims 1, 8 and 15, the Kato patent does not teach or suggest extracting process information from electronic simulation information. As disclosed by the Kato patent, product graphic data can be converted into elements such as lines and arcs. Predetermined two-dimensional machining shapes can then be defined from two-dimensional machining definition tables by extracting data from the elements. Predetermined three-dimensional machining shapes can be defined by combining a plurality of two-dimensional machining definition tables and defining selected two-dimensional machining definition tables as a three-dimensional machining shape. From the machine shapes, numeric control (NC) data intrinsic to a machine or NC source data can be

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generated from a combination of two-dimensional and/or three-dimensional machining shape data with machining features and machining conditions. By defining the machining shapes from elements such as lines and arcs, the machining shapes can be defined regardless of the type of machine used to machine the product produced by the machine.

The Kato patent therefore discloses defining machining shapes from two and three-dimensional machining definition tables that include elements that collectively form product graphic data. Nowhere, however, does the Kato patent disclose defining machining shapes based upon, or extracting machining shapes from, electronic simulation information, as recited by independent Claims 1, 8 and 15. In this regard, the machining definition tables disclosed by the Kato patent include elements that collectively form product graphic data. In contrast, as disclosed in the specification of the present application, the electronic simulation information, from which process information extracted in accordance with the claimed invention, includes motion device information and information respecting any objects upon which the motion device will operate. For example, the electronic simulation information can include information respecting various machine tools, information related to the components to be operated upon by the machine tool, as well as "high level" motion control information (e.g., NC set for the particular component assembly and machine tools). Pat App., p. 9, ll. 18-29.

As also disclosed by the specification of the present application, the electronic simulation information, from which process information extracted in accordance with the claimed invention, can traditionally be utilized to allow the user to verify the operation of motion devices produced by a finished set of operation information, such as the machine control data (MCD) derived from a NC program. *Id.* at ll. 6-10. In contrast, nowhere does the Kato patent teach or suggest the use of electronic simulation information or any other information capable of being utilized to verify the operation of motion devices, whether the product graphic data, elements of the product graphic data, two or three-dimensional machining shapes, two or three-dimensional machining definition tables, NC data intrinsic to a machine, NC source data or otherwise. Thus, Applicant respectfully submits that the Kato patent does not teach or suggest extracting process information from electronic simulation information, as recited by independent Claims 1, 8 and 15.

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Not only does the Kato patent not teach or suggest extracting process information from electronic simulation information, the Kato patent also does not teach or suggest formatting the process information into neutral process information in a format independent of a format of the electronic simulation information, as also recited by independent Claims 1, 8 and 15. In this regard, as explained above, nowhere does the Kato patent teach or suggest the use of electronic simulation information or any similar information traditionally utilized to verify the operation of motion devices. And because the Kato patent does not teach or suggest electronic simulation information, the Kato patent likewise does not teach or suggest formatting process information into neutral process information in a format independent of the format of electronic simulation information, as recited by independent Claims 1, 8 and 15.

Applicant therefore respectfully submits that, in contrast to the method, system and computer program product of independent Claims 1, 8 and 15, the Kato patent does not teach or suggest either extracting process information from electronic simulation information, or formatting the process information into neutral process information in a format independent of a format of the electronic simulation information. As such, Applicant respectfully submits that independent Claims 1, 8 and 15 are patentably distinct from the Kato patent. And as dependent Claims 2-7, 9-14 and 16-21 each depend, directly or indirectly, from independent Claims 1, 8 and 15, respectively, Applicant also respectfully submits that dependent Claims 2-7, 9-14 and 16-21 are patentably distinct from the Kato patent. Thus, Applicant respectfully submits that the rejection of Claims 1-21 under 35 U.S.C. § 102(e) as being anticipated by the Kato patent is overcome.

**B. The Claimed Invention is Patentable over the Mizuno and Nakamura Patents**

The Official Action rejected Claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over the Mizuno patent, in view of the Nakamura patent. The Mizuno patent discloses a NC system for control software for NC devices. As disclosed, the system includes a host computer that, when activated, reads modules from an external nonvolatile memory, and reconstructs control software for a machine in accordance with a system configuration information storage file. The host computer can then transfer the control software to a volatile memory of each of a

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number of NC devices. Various types of modules are stored collectively in an external nonvolatile memory without duplication. As such, in updating the control software, it is necessary only that data be updated for the software modules in the external nonvolatile memory.

As conceded by the Official Action, the Mizuno patent does not disclose extracting process information from electronic simulation information, or formatting the process information into neutral process information in a format independent of a format of the electronic simulation information, both of which are recited by independent Claims 1, 8 and 15. Nonetheless, the Official Action alleged that those features are obvious to one skilled in the art, and that the Nakamura patent discloses those features of the claimed invention. In contrast to the Official Action, Applicant respectfully submits that not only are those features are not obvious to one skilled in the art, the Nakamura patent does not teach or suggest those features.

The Nakamura patent discloses a machine tool control system for controlling a plurality of machining equipment. As disclosed, the machine tool control system controls the machining equipment by transferring, from a tool center, schedules for each machining equipment to a plurality of terminals which correspond to the plurality of machining equipment, respectively. During operation, then, the system analyzes the current operating condition of the plurality of machining equipment through the respective terminals, and selects a schedule which is currently capable of being processed by each of the plurality of machining equipment from the plurality of schedules. The schedule that is selected is transferred to each of the plurality of terminals corresponding to each of the plurality of machining equipment. As also disclosed by the Nakamura patent, a machining program converting system that can convert an original machining program corresponding to one of the machining equipment into a compatible machining program for a substitutive machining equipment. Further, as disclosed by the Nakamura patent, an automatic CAM module can read a desired machining figure data generated by a CAD system to generate a machining program.

In contrast to independent Claims 1, 8 and 15, and like the Mizuno patent, the Nakamura patent does not teach or suggest extracting process information from electronic simulation information, or formatting the process information into neutral process information in a format independent of a format of the electronic simulation information. The Nakamura patent

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does disclose schedules including the name of a machining program for controlling machining equipment. The Nakamura patent also discloses converting a machining program corresponding to one machining equipment into a compatible machining program for a substantive machining equipment. The Nakamura patent even discloses reading machining figure data from a CAD system to generate a machining program. Nowhere does the Nakamura patent teach or suggest, however, extracting process information from electronic simulation information, as recited by independent Claims 1, 8 and 15.

As disclosed by the specification of the present application, in conventional modern motion systems, once a CAD model has been defined, computer-aided manufacturing (CAM) systems are used to allow NC devices to produce a component. In this regard, one part of most CAM systems is a process called numerical control (NC) set creation, in which a set of "high level" instructions are created, where the "high level" instructions designate the precise locations for machining each of the features of the component, including those of a pattern, on the component. Once the NC set has been created, a post processor can adapt the "high level" instructions of the NC program to the specific requirements of the NC device and its machine control unit (MCU), and output a work piece instruction understandable to the MCU in the form of machine control data (MCD). To help ensure the motion devices operate as error free as possible, many modern motion systems employ electronic verification systems. In this regard, in the manufacturing industry, electronic verification systems are used to make sure the MCU and NC device produce an error free part as close to the CAD design as possible. NC verification systems simulate MCD to detect part program errors and bad or rapid NC device operations. Pat. App., p. 2, ll. 7-33.

In any embodiment of the Nakamura patent, the system operates with machining programs, whether directly implementing a machining program, converting a machining program into a compatible machining program for a substantive machining equipment, or reading machining figure data from a CAD system to generate a machining program. The Nakamura patent does not teach or suggest verifying the machining programs with an electronic verification system. And because electronic verification systems can produce electronic simulation information, the Nakamura patent likewise does not teach or suggest electronic simulation

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information, from which process information can be extracted, as recited by independent Claims 1, 8 and 15. See Pat. App., p. 9, ll. 3-5. In contrast, in accordance with the present invention, by utilizing electronic simulation information, the method, system and computer program product can eliminate many steps in the creation, verification and use or motion device commands, as required by conventional systems, including the Nakamura system and the Mizuno system. Thus, Applicant respectfully submits that the Nakamura patent, like the Mizuno patent, does not teach or suggest extracting process information from electronic simulation information, as recited by independent Claims 1, 8 and 15.

Like the Kato and Mizuno patents, the Nakamura patent also does not teach or suggest formatting the process information into neutral process information in a format independent of a format of the electronic simulation information, as also recited by independent Claims 1, 8 and 15. In a manner similar to that explained above with respect to the Kato patent, because the Nakamura patent does not teach or suggest electronic simulation information, the Nakamura patent likewise does not teach or suggest formatting process information into neutral process information in a format independent of the format of electronic simulation information, as recited by independent Claims 1, 8 and 15.

Applicant therefore respectfully submits that, in contrast to the method, system and computer program product of independent Claims 1, 8 and 15, neither the Mizuno nor the Nakamura patents teach or suggest either extracting process information from electronic simulation information, or formatting the process information into neutral process information in a format independent of a format of the electronic simulation information. As such, Applicant respectfully submits that independent Claims 1, 8 and 15 are patentably distinct from both the Mizuno and Nakamura patents, taken individually or in combination. And as dependent Claims 2-7, 9-14 and 16-21 each depend, directly or indirectly, from independent Claims 1, 8 and 15, respectively, Applicant also respectfully submits that dependent Claims 2-7, 9-14 and 16-21 are patentably distinct from the Mizuno and Nakamura patents, taken individually or in combination. Thus, Applicant respectfully submits that the rejection of Claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over the Mizuno patent, in view of the Nakamura patent is overcome.

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### CONCLUSION

In view of the amended claims and the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

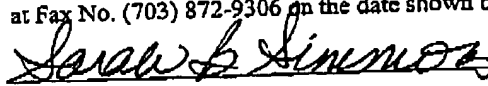


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#### CERTIFICATION OF FACSIMILE TRANSMISSION

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Sarah B. Simmons

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